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10/557,638	11/17/2005	Jorn Ungermann	DE030179	8102

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EXAMINER	
LIU, BEN H	

ART UNIT	PAPER NUMBER
2616	

NOTIFICATION DATE	DELIVERY MODE
03/06/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Office Action Summary	Application No.	Applicant(s)	
	10/557,638	UNGERMANN ET AL.	
	Examiner	Art Unit	
	BEN H. LIU	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 November 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: the specification refers to the claims of the application. For example, page 3 lines 1-2 of the specification recite, "This object is achieved in accordance with the invention by a time-triggered communication system as claimed in claim 1." Similar problems are found throughout the specifications.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 2 and 12 recite the limitation "another oscillator" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claim 19 is directed to a computer program per se, which is non-statutory subject matter. The claim fails to mention a computer readable medium encoded with, stored with, or embodied with "computer executable instructions." Without these components the functionality of the claimed invention cannot be carried out.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-9, 11-17 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Doerenberg et al. (U.S. Patent 6,467,003).

For claim 1, Doerenberg et al. disclose a time-triggered communication system which comprises at least two channels and at least a first and a second node of the "cold-start node" type, characterized in that: a first communication controller is assigned to the first channel and a second communication controller is assigned to the second channel *(see column 7 lines 12-14, which recite two bus interface controllers each connected to a pair of independent sub-busses)*, the first and the second communication controller each comprise a local clock, said local clocks being independent of each other *(see column 6 lines 57-58, which recite independent clock oscillators for each bus interface controller)*, an interface for the interchannel communication is

arranged between the first communication controller and the second communication controller, both communication controllers have means for generating, sending, receiving and storing a status signal, and both communication controllers perform the start operation only if both are in the "ready" status *(see column 7 lines 3-11, which recite enabling the bus interface controller through an enable signal received from the other bus interface controller).*

For claims 2 and 12, Doerenberg et al. disclose a time-triggered communication system characterized in that each of the two local clocks is pulsed by a different oscillator *(see column 6 lines 57-58).*

For claims 3 and 13, Doerenberg et al. disclose a time-triggered communication system characterized in that both communication controllers comprise differently configurable means for generating a start-up timer *(see column 13 lines 32-38).*

For claims 4 and 14, Doerenberg et al. disclose a time-triggered communication system as claimed in claim 1, characterized in that both communication controllers comprise means for receiving a start signal or an abort signal *(see column 7 lines 3-11).*

For claims 5 and 15, Doerenberg et al. disclose a time-triggered communication system, characterized in that both communication controllers are arranged on a single chip, and the interface is also integrated on this chip *(see column 2 lines 57-60).*

For claims 6 and 16, Doerenberg et al. disclose a time-triggered communication system, characterized in that both communication controllers are arranged on a chip of their own, and the interface is externally arranged *(see column 3 lines –10).*

For claims 7 and 17, Doerenberg et al. disclose a method of carrying out a synchronous cold start in a time-triggered communication system, comprising the steps of: generating a status

signal in each communication controller in dependence on parameters, transmitting the status signal to the relevant other communication controller via an interface *(see column 7 lines 3-11, which recite enabling the bus interface controller through an enable signal received from the other bus interface controller)*, comparing, by each of the communication controllers, their own state with that of the relevant other communication controller, and performing a cold start if, and so long as, both communication controllers are in the "ready" state *(see column 13 lines 19-28, which recite a cross-enabling mechanism of the enable line that ensures that transmission occurs only when both controllers agree).*

For claim 8, Doerenberg et al. disclose a method of carrying out a synchronous cold start in a time-triggered communication system, characterized in that a ready signal is generated if all conditions for performing the cold start exist for the cold start node in question, and an abort signal is generated if a fault occurs at the relevant cold start node *(see column 13 lines 19-29).*

For claim 9, Doerenberg et al. disclose a method of carrying out a synchronous cold start in a time-triggered communication system, characterized in that the states are compared continuously or at least at time intervals *(see column 13 lines 30-46).*

For claim 11, Doerenberg et al. disclose a device for a time-triggered communication system which comprises at least two channels and at least two nodes of the "cold-start node" type, characterized in that the device comprises: a first communication controller with an independent local clock which is assigned to the first channel; a second communication controller (6) with an independent local clock which is assigned to the second channel *(see column 6 lines 57-58 and column 7 lines 3-11, which recite two bus interface controllers each connected to a pair of independent sub-busses with independent clock oscillators)*; an interface

for the interchannel communication, which is arranged between the two communication controllers, and means for generating, sending, receiving and storing a status signal *(see column 7 lines 3-11, which recite enabling the bus interface controller through an enable signal received from the other bus interface controller).*

For claim 19, Doerenberg et al. disclose a program that is run by a processor and that contains instructions for implementing a method of carrying out a synchronous cold start in a time-triggered communication system *(see column 6 lines 22-41 and column 3 lines 48-51).*

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 1and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doerenberg et al. (U.S. Patent 6,467,003).

For claims 1 and 18, Doerenberg et al. disclose all the subject matter of the claimed invention with the exception wherein the use of a time-triggered communication system is in a motor vehicle control. However, Doerenberg et al. disclose that the time-triggered communication system can be used in avionics applications as well as other safety-critical functions where data is handled with a high degree of integrity and in a fault tolerant manner *(see abstract)*. Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to implement the time-triggered communication system as taught by Doerenberg et al. in a motor vehicle control. The time-triggered communication system can be implemented in a motor vehicle control by using a module including a bus interface controller as taught by Doerenberg et al. at each communication point of the motor vehicle control system. The motivation for using the fault tolerant time-triggered communication system as taught by Doerenberg et al. is to ensure a high level of safety and dependability for critical motor vehicle control functions.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. *(see form PTO-892).*

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BEN H. LIU whose telephone number is (571)270-3118. The examiner can normally be reached on 9:00AM to 6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Firmin Backer can be reached on (571) 272-6703. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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PRIMARY EXAMI

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